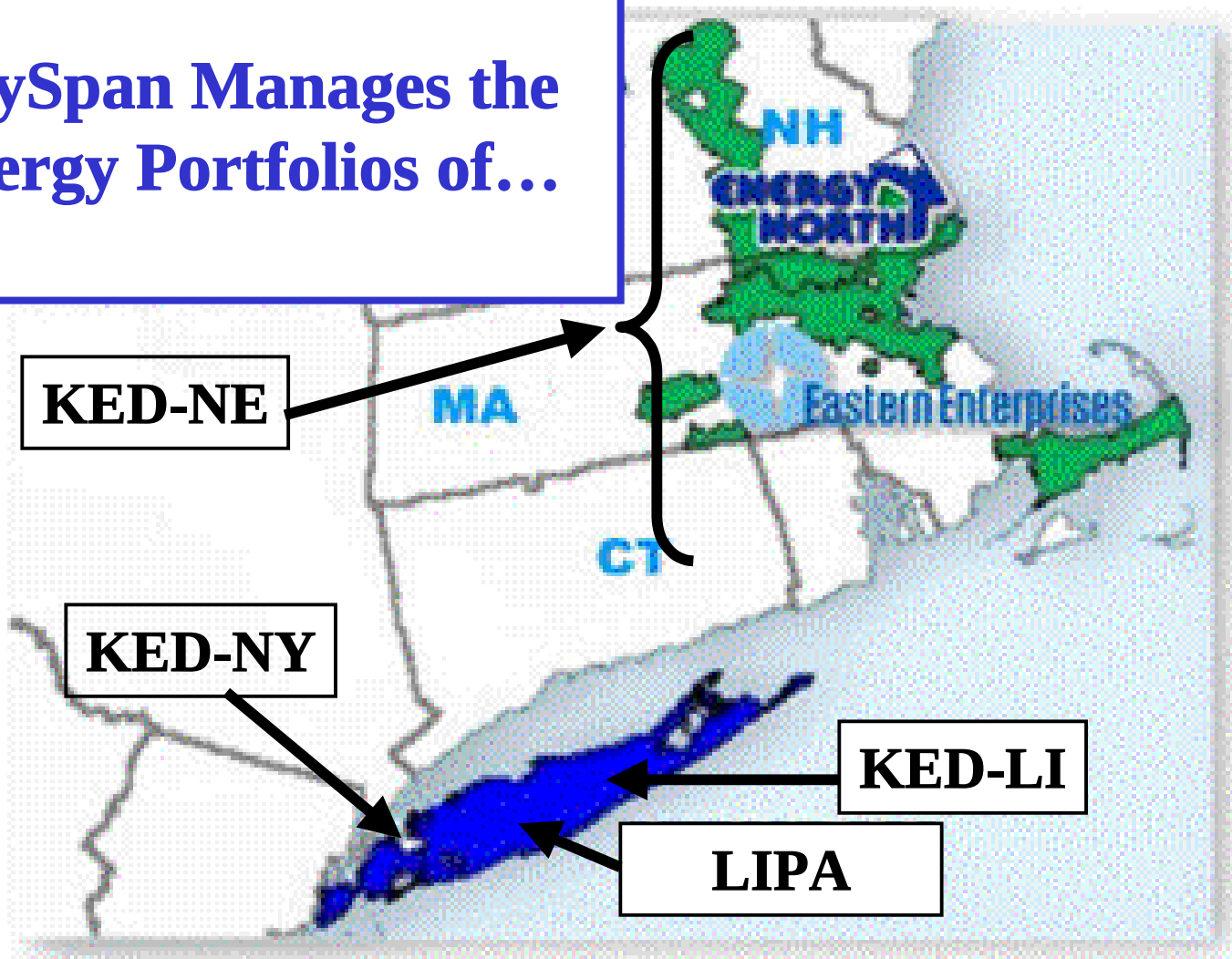
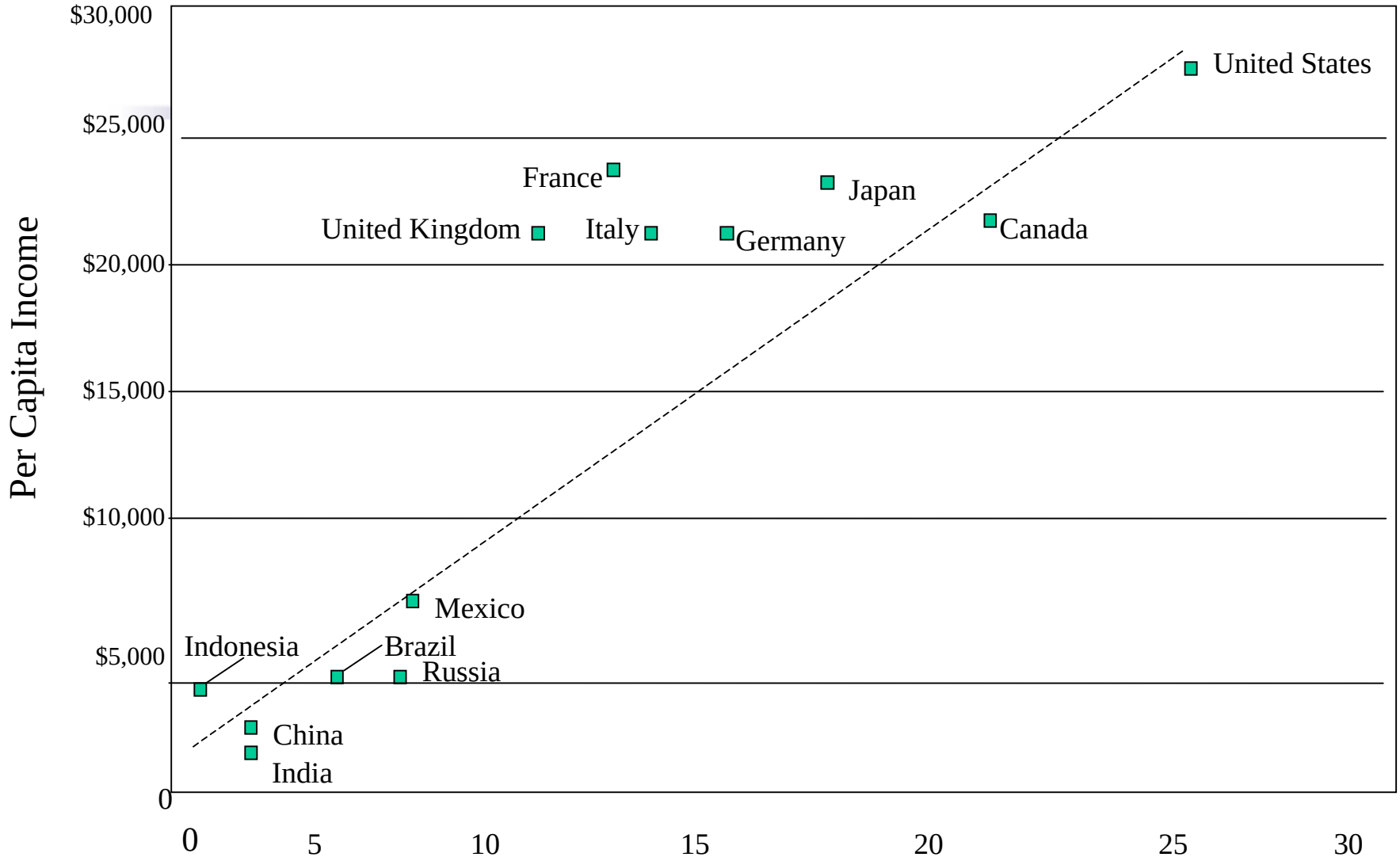
Natural Gas Technology
Investment In A Healthy U.S. Energy Future

KeySpan Manages the Energy Portfolios of…



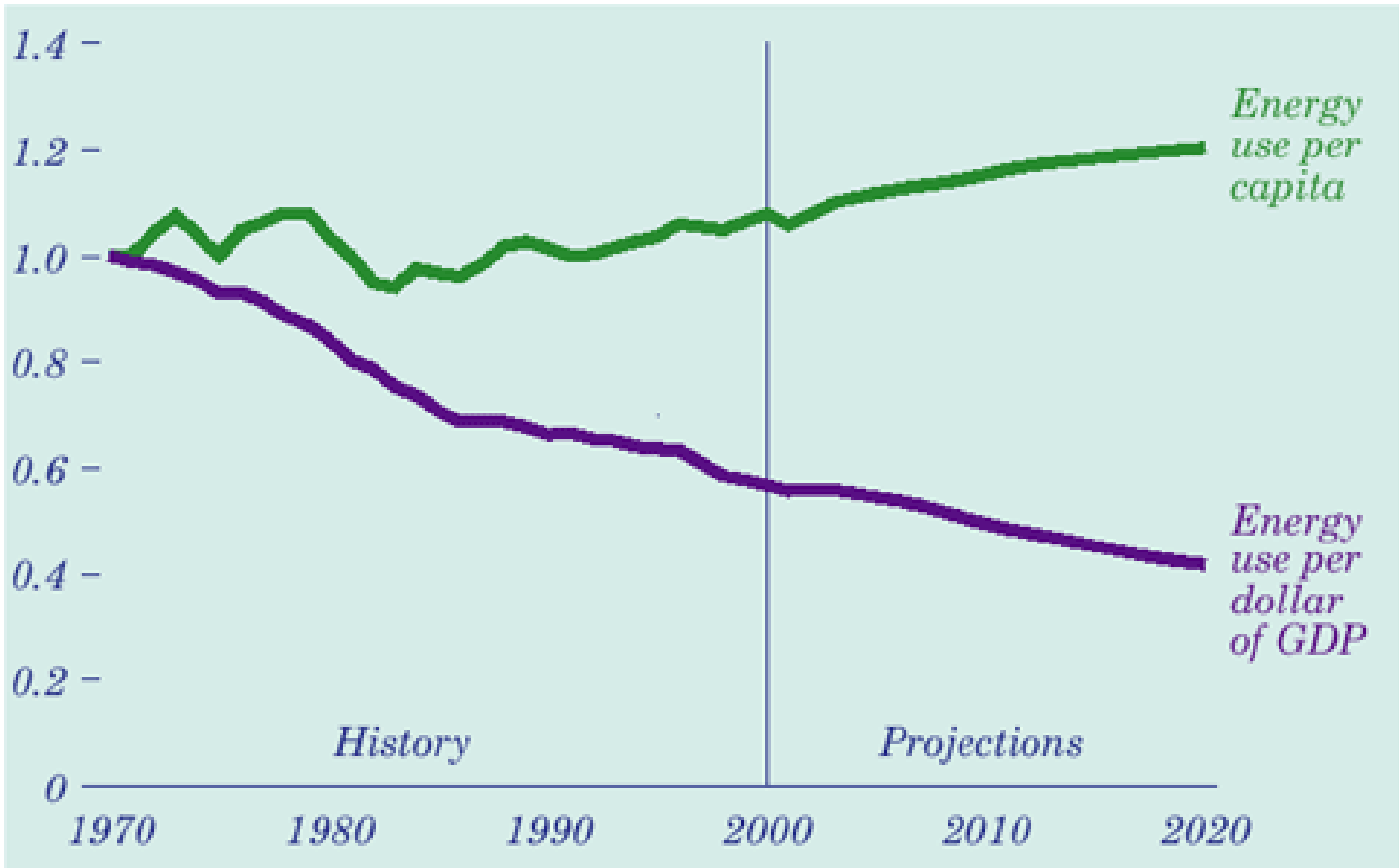
Per Capita Oil Consumption (Barrels/Year)



KEYSPAN

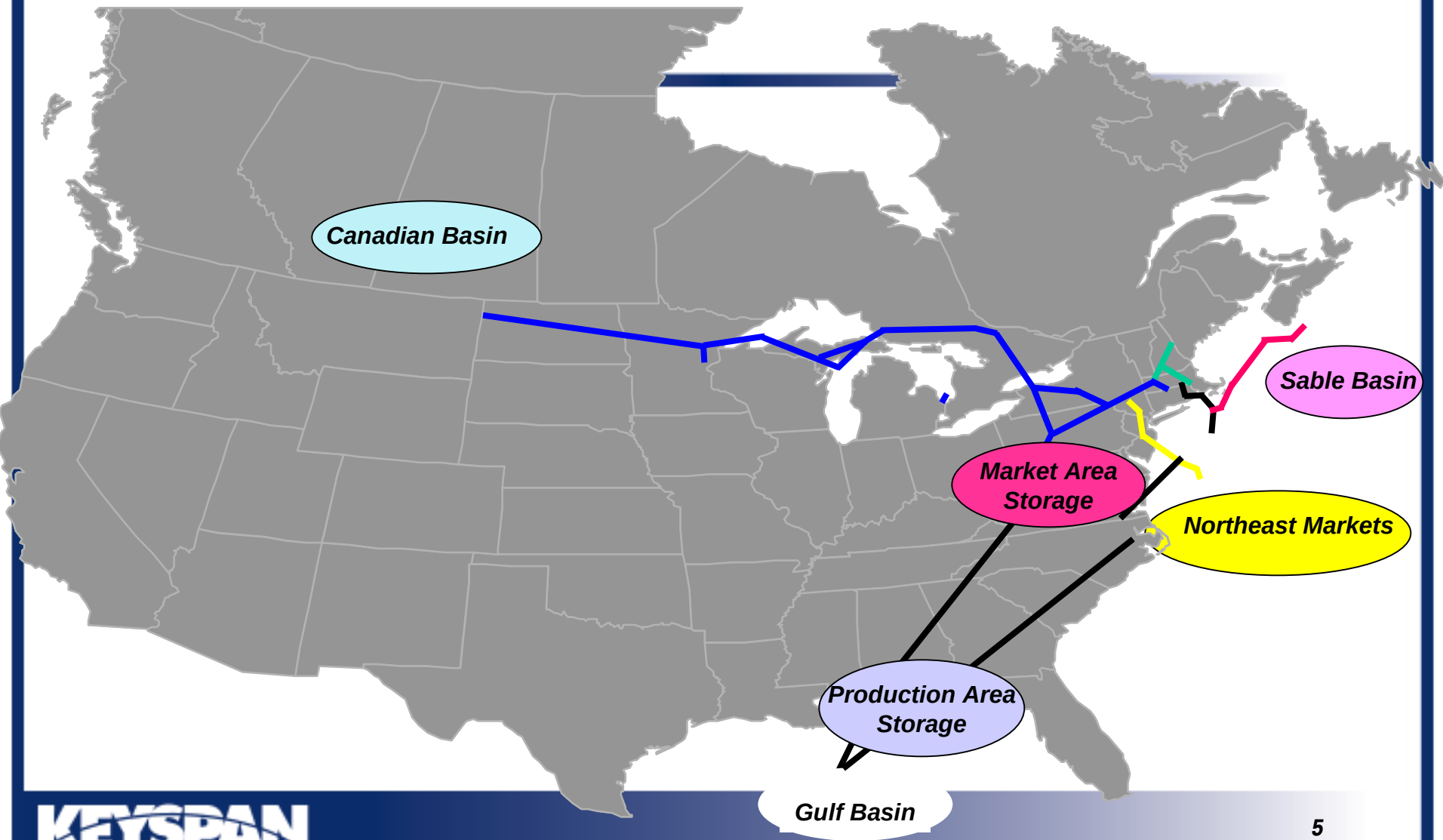
Source: The Color Of Oil

Energy Use Per Capita and Per Dollar Of GNP

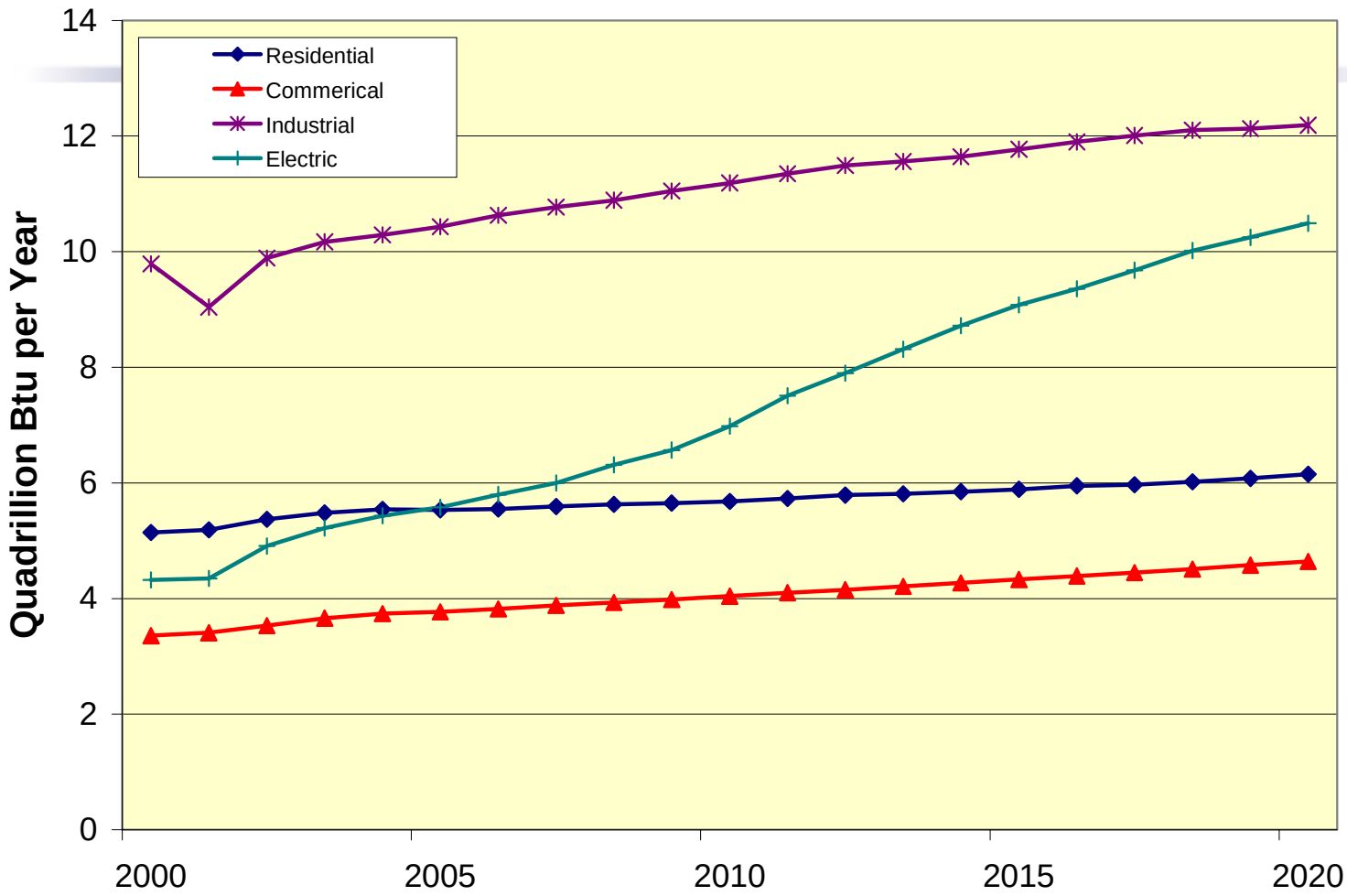


Source: Energy Information Administration

Market Area Storage Affects Winter Deliverability in the Northeast

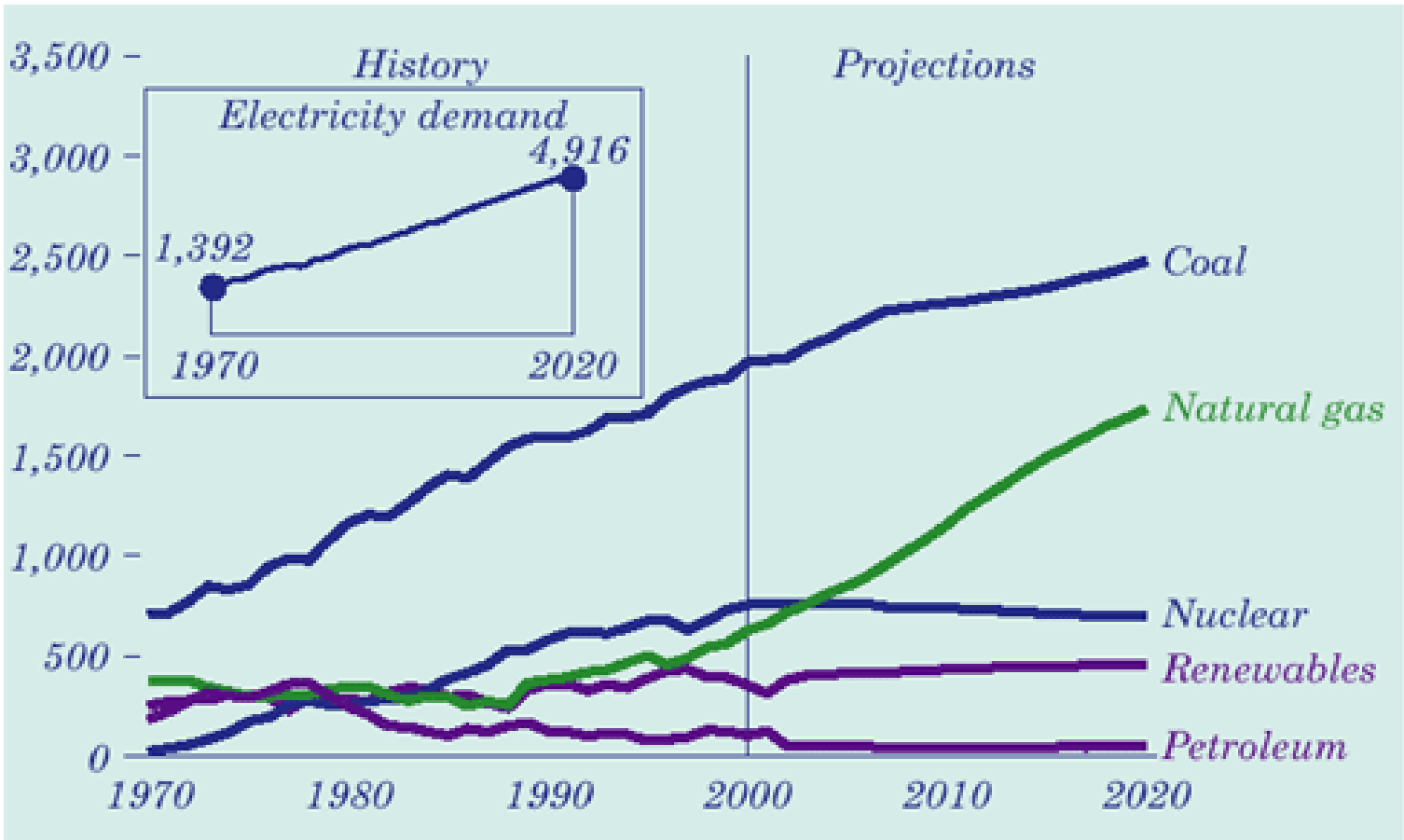


Energy Consumption by Sector



Source: Energy Information Administration

Electric Generation By Fuel 1970 - 2020



Source: Energy Information Administration

Storage Value

- Prior to the late 1980's storages were used purely by utilities and not commercial.
- When the commodity was regulated the economic value of storage was the regulated return of the asset.
  - Operational value was greater because of the ability to swing.
- The value of storage for utilities was the avoided costs of meeting additional needs.

Storage Value

- A wave of new storage proposals were announced after deregulation.
- New players with the expectation of profiting from underground storage entered the industry.
  - New storage developers were entrepreneurs with no ties to the traditional utility storage industry.
  - Marketers entered the market as the “middle man”.
- Seasonality and increasing volatility absent before deregulation became clearly evident post deregulation.

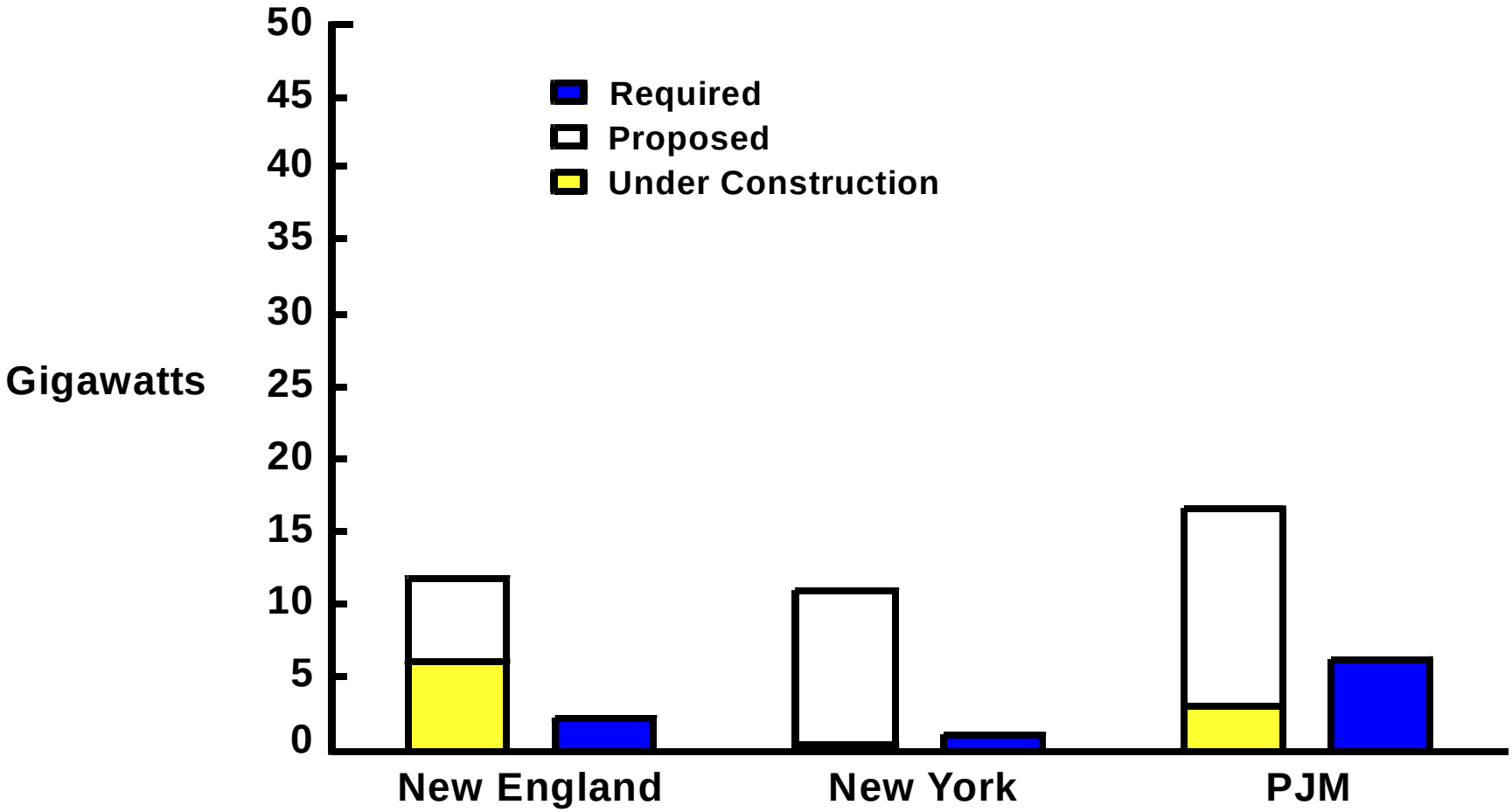
Volatility Caused by Lack of Infrastructure

- Supply/demand in a delicate balance.
- Demand verse storage capacity draw down has been reduced in the past 10 years from 44 days to 36 days.
- Highest volatility occurs in electricity due to lack of storage.
- Financial instruments replace physical hedging.
- New economy investments strip dollars from traditional asset investments in late 1990's.

Efficient and Liquid Markets

- Underground storage provides discretional supply and demand.
- Regional pipelines creates liquid trading hubs.
- Access to additional supply basins negates reliance on a single point of supply.

Regional Capacity Required Versus Proposed and Under Construction, 2001–05



Source: Cambridge Energy Research Associates.
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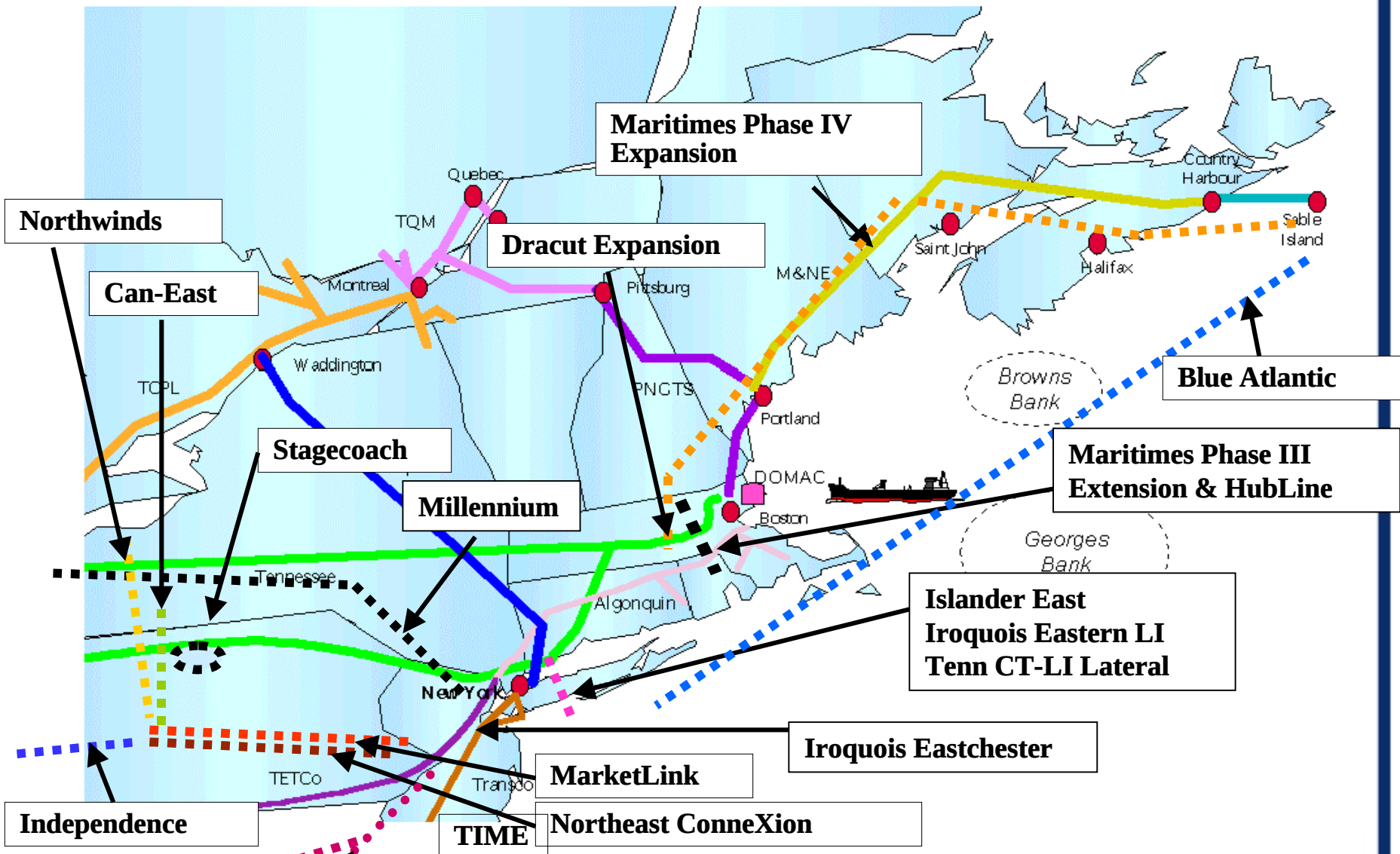
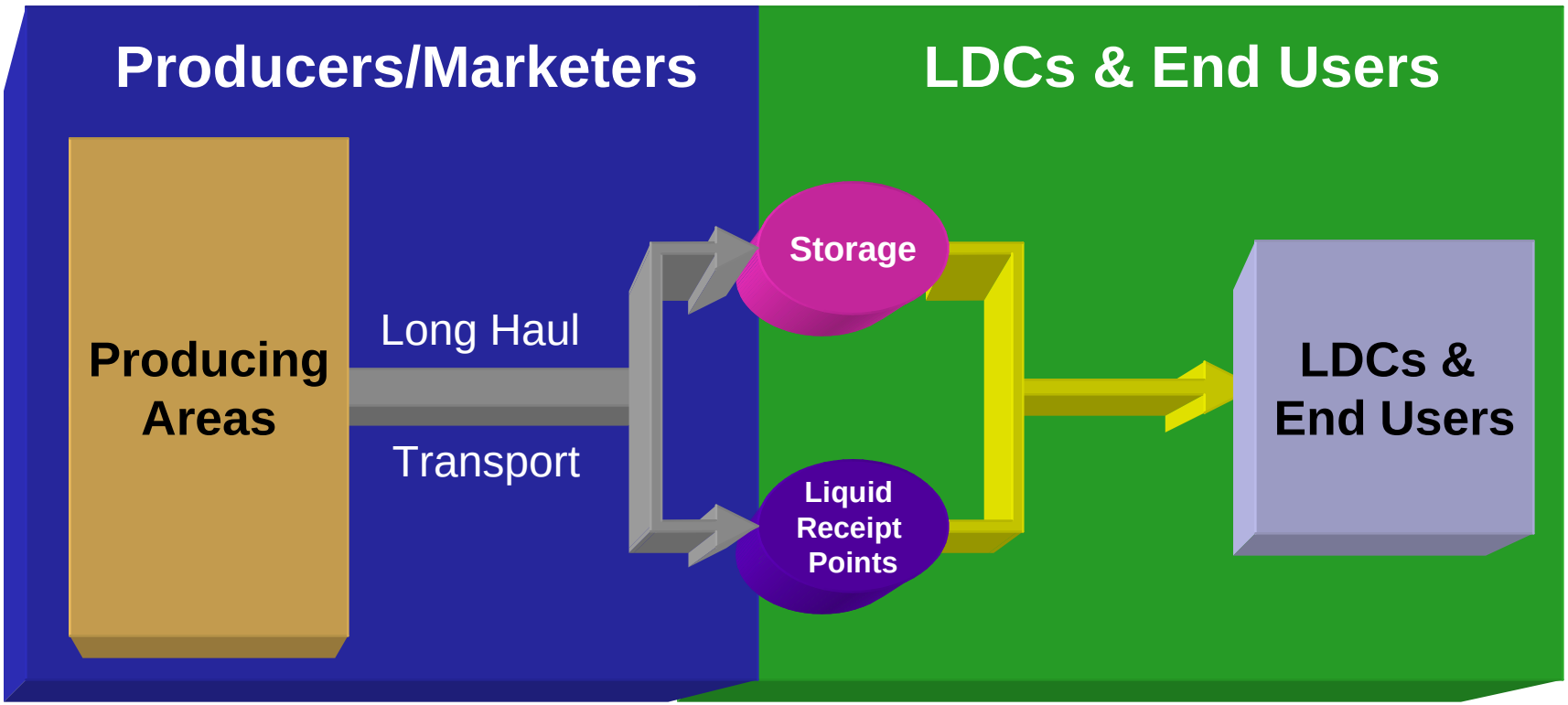
Major Pipeline Expansion Projects To The Northeast



Shift In Risk Among Industry Players



How Does Fuel Price Influence What We Bid Into Electric Energy Market?

- For dual fueled units (Oil/Gas)
  - Oil: Replacement price of fuel Gas: Spot or Term Gas.
  - Offer price starts at cost; market price developed based upon perception of market and reliability.
  - Use lower priced fuel as a general rule.
  - Offer reflects desire to run; ie. to meet obligations.
  - Offers used in real time reflect higher costs to procure incremental supplies (as in the case of gas).
    - Offer is indifferent to fuel price, since it is recovered to offer price and settlement of LBMP prices.
    - Lost opportunity costs for offers higher than fuel costs projection.

Natural Gas Supply

- Rig counts are down 30% from highs in July 2001.
- Drilling investments are correlated with gas prices.
- Decline rates are outstripping technology.
  - Well half life is down to 24 months from 40 in 1990.
- Gas rigs need to increase from their current level in the low 600s to 800 to keep production even.
- Production is projected to be down 4% - 6% year on year.
- Canadian imports are off about 10%.

US Demand

- First quarter 2002 year on year weather related demand was down 13%.
- Normal weather plus economic growth will increase residential demand 4.8% in 2003.
- 2002 electric generation gas demand forecasted up 2.9% but can be capped by alternative fuel.
- Year on year industrial demand turned positive in Jan 02 due to low gas prices.

Prices Will Be Volatile And Cycles Between Periods Will Be Shortened

Conclusion

- Volatility will continue for the next few years.
- Price volatility will control the market until the infrastructure can handle swings in supply and demand.
- In volatile markets options provide the greatest risk mitigation but at a cost.
  - Dual fuel units and swing supplies.